

### Abstract of the Disclosure

A motor driving system drives an induction motor with a rotation frequency detector. The induction motor drives a load, and the rotation frequency detector detects a rotation frequency of the induction motor. The motor driving system includes a variable speed driving unit, and an inverter control unit. The variable speed driving unit is connected to the induction motor and has a capacitance at output. The variable speed driving unit rectifies first 3-phase AC power to produce DC power, and converts the DC power into second 3-phase AC power with a frequency, and drives the induction motor with the second 3-phase AC power. The inverter control unit generates a frequency instruction and a temporary current instruction based on the detected rotation frequency and a rotation frequency instruction at least. Then, the inverter control unit corrects the temporary current instruction based on at least one of first correction depending on the capacitance and second correction depending on a predetermined frequency component of the temporary current instruction to produce a current instruction, and controls the variable speed driving unit based on the frequency instruction and the current instruction.

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